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Editorial Comment

The Leaven It is apparent that a force is at work throughout the United States which is quickening the minds of those interested in Tuberculosis Eradication. Thousands of physicians are, for the first time, grouping themselves together in county and state Medical Society Tuberculosis Committees, are seriously starting to study their local tuberculosis problems, as well as taking greater interest in those problems of nation wide importance in the Tuberculosis Crusade and they are asking questions; sensible questions. They want to know if their municipal, county and state tuberculosis institutions are up to the minimum standards as outlined under the Pennsylvania Plan for Tuberculosis. They want to know if their public health officers are doing their utmost to survey the apparently healthy adult groups which are known to be most heavily infected, in order to find the infected case early, while curable and inexpensively curable. They want to know if the money collected in the name of tuberculosis eradication is spent for tuberculosis eradication, or if it is frittered away on talking about it, or on some entirely unrelated subject.

Not only the doctors, but organizations in tuberculosis work are also enlivened. In many areas there is a cooperation of minds that is leading to improvement and reform of actions and ideas in the Tuberculosis Eradication Work.

Let us each decide for ourselves whence comes this new force and then loyally try to keep it in operation. Life is active, though sometimes uncomfortable. Death is placid.

F. W. B.

Talent Scouts In organizations which are alive, whether industrial, educational, or recreational, there is in action a systematic search for new persons of ability. When found, these "prizes" are joyfully added to the old group, be it a board of directors of a corporation, the faculty of a college, the talent of a moving picture company, or the members of a baseball team. Without "new blood" any organization becomes decadent, and dependent upon the excellence of judgment in selection of the new recruits is the future strength and vulnerability of the organization.

This is demonstrated in our tuberculosis organizations, from the smallest Tuberculosis Committee to the great Tuberculosis Societies. We cannot stand still in our personnel any more than we can in our concepts. There are many young and virile minds ready and willing to apply their best efforts in the Tu-

berculosis Crusade. It is an opportunity we must not miss or they will find their way into other fields, to the improverishment of our Cause.

By the time this is published, it is hoped that the American College of Chest Physicians will have taken a step in this direction by having created an opening in the College for Associate Membership of chest specialists who are on the road to qualification for Fellowship.

Our Fellows should try to see to it that in their localities men of force, who are interested in Tuberculosis Eradication, are given opportunity to become incorporated with some important active Anti-tuberculosis Work. Cowardly leadership too often leads to selection of weaklings for positions of importance just because they are considered "safe". This safety is not for the cause, but for the weak leader. It eventually wrecks the organization and the leader with it. F. W. B.

World War II and Tuberculosis Immediately following the declaration of war, there was a severe disorganization of all peace-time health services in England. Just how severe this disorganization became was realized early. All tuberculosis sanatoria were included in the air raid casualty scheme. Therefore, many infectious cases of tuberculosis were discharged from the institutions in order to provide casualty beds.

There was a virtual cessation of ordinary hospital and private consultant facilities. Administration services for tuberculosis practically ceased, out-patient clinic attendance was cut short, supervision and contact examinations became impossible; this all due to the fear of air raids which were expected to start with the out-break of war. However, several months passed, and the immediate need for casualty beds ceased for the time. Then the public health services began to take stock. Immediate steps were taken to correct the situation. They re-opened the tuberculosis clinics. A search was begun for all discharged patients in order to return them to the various sanatoria. The Minister of Health now has come to realize the great necessity of retaining a tuberculosis service unimpaired and uninterrupted, as a functioning machine for the civil population as well as for members of the armed forces.

There is still more concern in the minds of the authorities in regard to the armed forces. *The British Medical Journal* points out "The recognition of incipient, or even ancient pthisical lesions in recruits still seems to be regarded by Medical Boards as a matter upon which radiography is relegated to an unimportant place, and physical signs decide the verdict. A much wider use of radiography will have to be made if a large-scale admission of pthisical subjects to active service are to be avoided, with all the destructive influences that this would entail. Mass photography of the screen image, which has already been tried abroad with promising results, may provide a cheap and rapid solution. This is now being actively considered in this country, and we may hope that shortly it will become available, and its value determined."

These bitter experiences of the English should prove a valuable lesson to us.

C. M. H.

U. S. Medical Reserve Corps Every American Physician who is in good standing and physically fit has the opportunity of becoming a member of the Medical Reserve Corps of the United States Army and Navy. Many members of our profession have long been members of the Medical Reserve.

One has only to read of the disjointed situation in France, so far as the Medical Profession of that country is concerned, to realize how fortunate we American physicians will be if, and when, a National emergency occurs. The majority of the officers of the Reserve Corps are assigned to certain units. For this reason, there will be no element of surprise, or disruption of our plans when ordered to duty.

In France, following an M-Day Plan made in 1920 (The French medical profession knew little or nothing of the plan until the outbreak of War) the government skimmed off the cream of the profession for its use. These physicians were given only 12 hours to say goodbye to their patients and families, and to wind up their professional affairs before reporting to their designated locations and units. The transition caught some so unprepared that they had to ask for special leave

in order to clear up last-minute details. A vast majority did not have time to finish their daily visits, and in many cases before they got into their uniforms, their colleagues had been slipped in as replacements for their respective practices.

This cannot, and will not happen here if an emergency should arise causing medical reserve officers to be ordered to duty.

If there was a disruption of tuberculosis and other services in England, how much greater this disorganization in France must have been. Is it any wonder that the members of the Medical Profession in England and France have said "No matter who wins the war, the doctors will lose."

In view of the foregoing, the members of our profession here is America should be grateful for the opportunity to join the Medical Reserve. C. M. H.

A New Opportunity for Case Finding The vast expansion of the Army, Navy and Marine Corps will afford a new opportunity for a tuberculosis survey of many of our youths. If we are to train 90 to 100,000 young aviators, it is more than likely that many of the applicants will be refused because of some physical defect, and not a few on the count of pulmonary tuberculosis.

In the conduct of these surveys, will we again depend upon physical examination alone in the case of tuberculosis, as we did in 1917? Will we again wait until there is a proved positive sputum before a definite diagnosis is made; or will we use mass x-ray and be sure at once?

With the stepping up of industry, in order to acquire the equipment for a larger military establishment, will we make a health survey of all the old and new workers in order to insure maximum working hours and reduce absences from illness?

There will be a greatly increased demand for women workers in the various departments of government as well as in industry; thus furthering the opportunity for expanding a case finding survey.

In the haste to expand, will we forget the human element, or will we as members of the medical profession, insist at the start on the maintenance of a functioning health survey of every individual incorporated, and eventually to be incorporated, in this vast movement toward adequate preparedness.

There are many of us, even though in high places, who do not believe the whole truth and are content with wishful thinking. Then there are the vast majority who are lethargic and unthinking. These two classes could well be grouped and labeled "The seventh column." This "seventh column" is by far the most dangerous of all to the security of our country. It is to be hoped that the leaders of our profession will at once take steps to impress those in authority with the importance of a thorough and sane case finding campaign in industry as well as in all branches of the military service.

The whole defense program depends on the 100 per cent functioning of every individual who has a direct part in it; therefore, a complete health survey, or if you please, a case-finding campaign, is necessary. We should adopt Caeser's old slogan, "The health of the people shall be supreme." C. M. H.

Last Call, 1940 Meeting This is the last call, the last chance we will have to extend to you our most cordial invitation to attend the Sixth Annual Meeting of the American College of Chest Physicians, which will be held in New York City from June eighth to June tenth, at the Biltmore Hotel.

Over one hundred and fifty reservations have already been made — more than a twenty-five per cent increase over the registrations at this time last year. But one hundred and fifty is not enough. The number should at least be doubled!

The program which has been arranged warrants, indeed it demands, the attendance of every Fellow of the College who can possibly come to New York, and of every other physician who is interested in chest diseases.

If you are not one of the hundred and fifty, who have already made reservations, we urge you to pack a suitcase, send your reservation direct to the Biltmore Hotel, and attend an enjoyable and instructive meeting. Here's hoping you'll give us a chance to say "Hello" in New York, at the Biltmore.

F. W. B.

Tuberculosis Case Findings through Mass Surveys in Adult Groups*

ABRAHAM E. JAFFIN, M.D., F.A.C.P.**
Jersey City, New Jersey

The aim and purpose of all agencies engaged in the fight against tuberculosis is to eliminate the disease totally or at least make it as scarce as smallpox in modern civilized countries. We have already witnessed during the past three years a practical demonstration of an economic method of case-finding in the adolescent groups in our high schools. Here, at an average cost of forty-seven cents per student, thousands of young men and women have been examined. Scores of cases of tuberculosis have been eliminated from their midst—some advanced, most in the early stages.

This action has served many purposes:

First, it has enabled those discovered with early forms of the disease, to be restored to health in the shortest possible time.

Second, it has prevented further spread of the disease from the more advanced cases to their classmates.

Third, it has developed a tuberculosis consciousness in a considerable number of people, with all the benefits that may follow.

Fourth, it has led to the discovery of other cases in the homes of these students.

It would be ideal if arrangements could be made for an x-ray of everybody's chest. There would be, however, many practical difficulties in such a program. On the other hand, we cannot hope for any progress if we are to wait for public education to persuade those who feel well, to request examination. It is well known that from two-thirds to nine-tenths of early cases have no symptoms. These must be reached by modern case-finding methods which depend mostly on the x-ray.

There are many readily available groups of adults for whom arrangements for mass x-raying could be made. We cannot wait for symptoms or signs in these people if we hope to reduce the number of cases of tuberculosis in the community, and the deaths from the same. All industries, wholesale and retail business houses with their numerous employees, WPA workers, recipients of public relief, food-handlers, transportation employees, as well as the inmates of custodial institutions, and police and fire departments, would yield many unknown cases of tuberculosis if surveyed. As a very good example may be cited the results of a recent health week at the YMCA in Jersey City where among 46 men who volunteered for x-ray, two cases of early tuberculosis were found.

The reports of the medical heads of various large industrial companies reveal that surveys of thousands of employees have led to the discovery of a similar percentage of cases. The actual figures vary from 2.3 per cent to 5.2 per cent, the number increasing with age.

The subject is of considerable importance in industry in view of the fact that tuberculosis is more prevalent than occupational diseases. We all know to what great length large corporations have gone to install measures to prevent occupational diseases. It is obviously just as important, if not more so, that steps be taken for mutual benefit for the earlier discovery of tuberculosis in its most curable form.

Quoting Dr. Selby[1] of the General Motors Corporation, "Industry can act as a case-finding agency, it can protect workmen against contact with open cases within the plants, and it can safeguard workmen against conditions of employment that might accelerate minimal lesions or aggravate quiescent ones, but it cannot control outside causes even though the employee group is affected. So the over-all problem of tuberculosis control in industry is one of general community concern. It cannot be segregated within industry.

"So far as industry itself is concerned, the

* *Health Forum Talk*, given under the auspices of the Hudson County Medical Society, Hudson County Board of Health over the radio on June 23, 1939, Station W A A T.

**Chief of Clinics, Hudson County Tuberculosis Clinics; Chairman, Advisory Committee on Tuberculosis of The Medical Society of New Jersey.

1 Selby, C. D.: "The Control of Tuberculosis in Industry — A Responsibility and a Profit," *Transactions of 34th Meeting of N. T. A., Los Angeles, California, 1938;* Reprinted in *Diseases of the Chest*, Vol. VI, No. 5, May, 1940.

sound long-range program is to clear the plants of tuberculosis and to keep them clear. This does not necessarily imply that all workmen who have tuberculosis are unemployable. It does mean, however, that they must be employed only under conditions that permit them to work in safety to themselves and their fellow-employees and they must have close medical supervision."

Our various large industries, therefore, also offer a most fruitful field for the early discovery of tuberculosis in its more easily curable stages. The advantages of early discovery are shared mutually by the employers as well as the employees. We can stop the spread of disease in the plant, and its effect in lowering the plant's efficiency. The benefits to the worker's home as well as to the community at large are obvious.

The experiences of the Metropolitan Life Insurance Company and many hospitals have proved the value of frequent periodic fluoroscopic or x-ray examinations. Boards of Health can readily enforce an x-ray of the chest as a requirement for a food-handler's permit. Large transportation companies can very easily be persuaded to arrange for x-raying motor-men, chauffeurs, conductors, porters, etc., through their own medical relief organization unions or through other channels. Our city and county governments should automatically have every inmate under custodial care, and in hospitals, subjected to an x-ray of the chest. The probabilities are that a very high percentage will be found among the inmates of mental disease hospitals and jails. There should be no difficulty in having members of the police and fire departments x-rayed periodically. Finally, in view of the large number of unemployed, those applying for WPA jobs or public relief should be required to have an x-ray of the chest and, naturally, this should be provided for out of funds set aside for their maintenance. All this can be done sensibly without any undue tax burden. In many groups, the individuals can themselves pay the nominal cost of a paper film, while for those who cannot afford even this charge, it would be good business on the part of many municipalities to provide it without cost, as a means of early diagnosis. It would save the community many months or years of costly treatment. The medical profession with few exceptions stands ready to support such a program. *Objections to such plans usually emanate from those least familiar with their aims and possibilities.*

Editorially, the *New York Post* on June 16th, 1939 stated, "Perhaps in the World of Tomorrow, men and women no longer will die needlessly of tuberculosis because their doctor never knew they had the disease until it was too late. Every authority on tuberculosis agrees that early diagnosis and treatment greatly improve chances of cure. This is the doctrine which the New York Tuberculosis and Health Association has been preaching for years. The Medical Society of the County of Queens is doing something to make quick recognition of Tuberculosis easier. Anyone who visits the Medical and Public Health Building at the World's Fair can have a chest x-ray for one dollar. The picture of the lungs and heart is taken on a new paper film which brings down cost. The films are interpreted by a committee of physicians expert in the work, whose members were selected by the society, and the report sent to the subject's own physician.

"Since the x-ray exhibit opened, more than 2000 persons have been examined. In about 12 per cent of the first 500 films read there were found shadows on the lung which indicated the person examined would benefit from observation by a physician or, in some cases ought to be treated. As many as 1,000 persons a day could be x-rayed by use of a portable machine such as is being demonstrated, according to the manufacturers, at a school, office or factory.

"We think the county medical societies might well cooperate with fraternal organizations, unions, employers and educational authorities in a continuing effort to provide an annual examination of every man, woman and child in the city. The *doctors* would have *more patients* and *fewer hopeless cases;* the *people* would have more *health* and *less lingering illness.*"

Studies in Asbestosis

MOSES J. STONE, M.D.
Boston, Massachusetts

The diagnosis of asbestosis, its clinical course, the effect it produces on organs other than the lungs, as well as its various complications and sequelae, are very much in the controversial stage. Only within the last decade has the subject of asbestosis really received the attention of the medical world. The literature on this subject is still rather vague and only recently has the hazardous nature of exposure to asbestos dust been recognized and studied. To be sure, asbestos is not a new mineral[1]. The mineral mentioned in the writings of Herodotus and the second Pliny, was known to the Romans who mined it from the Alps and the Urals. In 1900, Montague Murray recorded in the *Charing Cross Hospital Gazette*, a case of disease due to inhalation of asbestos dust.

Hoffman was the first American to focus attention on the magnitude of the asbestosis problem in the United States. In the same year, Lynch and Smith reported their findings on asbestosis bodies found in the alveoli and bronchioles and in the fibrous and necrotic areas. Gloyne and others have described the asbestosis body as a core of asbestosis fiber surrounded by iron containing deposits. The bodies are slender, elongated, segmented structures with bulbous ends and stain blue when treated with potassium ferrocyanide. The essential features of the pathological changes of asbestosis appear to be pleuritis, marked diffuse fibrosis with contraction of the lungs, and the presence of the asbestos fibers and the asbestosis bodies. Thickening of the visceral pleura with varying degrees of pleural and pericardial adhesions is often found. Obliterating layers of fibrous tissue may surround the bronchioles and pulmonary end arteries. Lynch and Gloyne note that the presence of asbestos fibers in the mouth and nose are an indication of exposure, but not necessarily of disease. Essentially the presence of asbestosis bodies in the sputum indicates exposure to asbestos dust, but it does not absolutely denote disease.

This report is based on a study of 180 patients examined by the author in collaboration with the late Dr. John B. Hawes, II. The great majority of patients had been employed in a factory manufacturing asbestos brake linings with an average exposure time of five to fifteen years.

Classification

Of the 180 patients, 32 were diagnosed as negative, although these individuals claimed disability. X-ray films as well as physical signs failed to show any abnormalities that could be attributed to asbestosis. Seventy-eight patients were classed in Stage I, when there was definite limitation of chest expansion (less than 2 inches), in addition to roentgenological evidence of increased lung markings. Unlike silicosis, the very early fibrotic changes are very indefinite and only after considerable experience, together with careful standardized x-ray technique and proper history, can a diagnosis of early asbestosis be made. In Stage II, there were fifty-four patients who had definite symptoms and definite x-ray evidence of pulmonary fibrosis. Included in Stage III, were sixteen patients who had definite symptoms as well as roentgenological evidence of marked pulmonary involvement. The average length of exposure of the Stage I patient was eight years; Stage II, 10 years; Stage III, eleven years. While there is slight evidence that the degree of fibrosis is apt to increase with the length of exposure, there are other factors, such as intercurrent pulmonary infections, that play a part in the development of fibrotic changes in the lung structures.

Dyspnoea was the outstanding symptom in all patients. Dyspnoea on slight exertion, tightness of the chest, cough, general fatigue were among the other symptoms noted. In Stage III the patients also complained of inability to sustain any effort, cough, expectoration, tightness of the chest, anorexia and loss of weight.

1 Asbestos is a hydrated magnesium silicate, the composition of which varies with the sections from which it is mined. Most of the asbestos used in the United States is Canadian crysotile containing approximately 43 per cent magnesium, 13 per cent water and traces of nickel and iron and aluminum.

Physical findings were quite meager and were not in proportion to the symptoms offered by patients. Many cases showed dullness at the bases with hyperresonance at the apices associated with diminution of chest expansion. Ascultation disclosed prolongation of the expiratory phase with some high pitched dry rales. Associated bronchitis or bronchiectasis may be present.

X-ray examination constitutes the most important single procedure in the diagnosis of asbestosis. The shadows are much finer, lighter and more granular than the nodular patchy type of infiltration found in silicosis. In the early stages a relatively slight increase in density in the lung bases is seen. With progression of the disease and thickening of the pleura, a fine lace-like fibrosis is found. The typical granular or "ground glass" appearance is then noted, especially in the mid-lung and basilar areas. The bronchovascular markings are increased and pericardial and pleural thickenings are noted. Many cases show limitation of motion and elevation of the diaphragm. With associated disease the parenchymatous changes become more marked. In the series of cases studied. bronchiectasis, bronchitis and bronchopneumonia were found to be more frequently associated with asbestosis than was tuberculosis. In addition, tuberculosis did not impress the author as being a serious complication of asbestosis. Only one individual in the total series subsequently developed active pulmonary tuberculosis.

In 150 patients the cardiac aspects of asbestosis were studied. Ninety patients (60 per cent) showed prominent pulmonary vessels due either to enlargement or increased perivascular fibrosis. Asbestosis was associated with an increased transverse diameter in 33 per cent of the cases and 13 per cent had marked right-sided hypertrophy. The cardiac outline is obscured and blurred by the superimposed increased fibrous tissue. The thickening of the pleura, the marked emphysema and the pulmonary fibrosis may cause rotation or lateral displacement of the heart. Roentgenoscopic examination is essential to determine enlargement of the heart shadow and alterations in the cardiac silhouette. The x-ray appearance of asbestosis may be greatly altered by the congestion due to associated heart disease. It is also evident that the dyspnoea noted early in this disease is of cardiac or circulatory, rather than of pulmonary origin.

A small group of patients were reexamined three years following the first examination. X-ray, electrocardiographic blood studies and vital capacity examinations were done. The vital capacity was found to be 50-70 per cent below the normal, calculated on the basis of height and weight. The impression gained from the study was that in cases of advanced fibrosis the disease may progress even after exposure ceases. The heart was not affected unless pulmonary fibrosis was marked. In the light of the blood studies, fibrosis is the result of irritation due to asbestos fibers and not the result of infection. Since the first examination, 18 patients have died. Most of the patients still pursue gainful occupation, but are unable to perform duties that demand much physical exertion.

The impressions gained from the above study are that asbestosis is a debilitating disease caused by exposure to asbestos dust, tuberculosis is an infrequent complication and pulmonary infections, other than pulmonary tuberculosis, are fairly frequent complications. In advanced asbestosis, the right ventricle may dilate with subsequent pulmonary congestion. Like silicosis, asbestosis is caused by exposure to asbestos dust and should be classified as an industrial hazard. Hence such patients should be entitled to compensation under the industrial accident laws.

You Are Invited To Attend

— THE SIXTH ANNUAL MEETING —

of the

AMERICAN COLLEGE OF CHEST PHYSICIANS

BILTMORE HOTEL NEW YORK CITY

— JUNE 8-10, 1940 —

Basal Lesions of Pulmonary Tuberculosis among Filipinos

J. P. TIRONA, M.D.*
Manila, P. I.

The prevailing opinion among the majority of clinicians is that the upper lobes of the lungs are more vulnerable to pulmonary tuberculosis than the lower lobes. This fact may be attributed to two causes. The first is that many of the textbooks dealing with pulmonary tuberculosis give the impression that this disease originates in the apices of the lungs. The second is that experience has taught physicians that chronic upper lobe lesions of the lungs are generally considered tuberculous until proved otherwise. The contrary, however, is true in chronic basal lesions, for cases of lower lobe tuberculosis are extremely rare. Fishberg[1] states: "A lesion at the base while the apex is free should be considered non-tuberculous unless the sputum is positive as regards tubercle bacilli."

In 1935 at the University of the Philippines Infirmary, Manila, two positive cases with basal lesions were seen within a month. This unusual opportunity prompted the writer to study these cases.

All suspicious basal lesions from a group of 14,337 tuberculous cases were studied. The majority of these cases came from Santol Tuberculosis Sanatorium (now Quezon Institute). The rest came from the University Health Service, Manila.

Incidence

According to Fishberg[1] and Laenec[2], basal tuberculosis is extremely rare. Pottenger[3] failed to discuss this condition.

Hamilton and Fred[4] found ten proved cases out of 349 patients, showing an incidence of over three per cent. Kidd[5] found two cases out of 412 patients. Du Fault[6] found one in 365 cases. Rosenblott[7] found three cases in 1,000. Ross[8] found eleven cases in 60 tuberculous nurses. Lathrop and Lyman[9] found 80 cases among 2,809 tuberculous cases. Weidman and Campbell[10] found 40 out of 1,401 tuberculous patients. Incidence, according to Kidd, varied from one in eighty cases to one in five hundred cases, according to different writers.

The incidence of basal lesion in this report is one for every 1,300 tuberculous cases. Since most of these cases of basal lesions were seen in the year 1935, the incidence would have been higher had the computation been based on this year alone, thus giving a very erroneous picture of the true incidence.

Even using the figures of Kidd, which are the lowest published, that is one to five hundred cases, the incidence among Filipinos is still lower, when the prevalence of pulmonary tuberculosis is considered. In the Philippines tuberculosis occupies first place in the mortality statistics (over 30,000 deaths yearly).

Modes of Development

There are many theories concerning the development of basal lesions of pulmonary tuberculosis. H. K. Pancoast expressed the belief that this condition is due to some blood stream infection, an atypical manifestation of miliary tuberculosis, while other writers believe it to be a distinct type of tuberculosis similar to the childhood form. Still others think that this condition is but a retrograde lymphatic infection, or an extension from the hilum, either by contiguity to the tracheo-hilar lymph nodes or rupture of a caseated node into a bronchus. Colton[11] is one of the advocates of this theory. He said that the most plausible explanation would be a rupture of a hilar or tracheo-bronchial lymph node into a large bronchus or a lodgment of a massive infection in the terminal bronchioles and alveoli producing a broncho-pneumonia involvement.

In the x-ray examinations of the basal cases in this report, besides the antero-posterior positions, the patients were also examined in the semi-lateral positions. The object of this was to minimize, as much as possible, the possibility of superimposition of shadows on the hilus from infiltrations of the posterior surfaces of the lower portions of the lungs.

The majority of the previous x-ray records

* University of the Philippines Health Service Department.

of these eleven positive basal cases showed enlarged hila, a very common finding in radiographs of the chest. So common are these findings that they are oftentimes not given any importance at all either by radiologists or clinicians. The presence of apparently calcified or enlarged lymph nodes in the hilus with active clinical symptoms are very suggestive of a tracheo-hilar type of tuberculosis. Since these basal cases were followed from two to five years with periodical x-rays, the mode of development from a tracheo-hilar type of tuberculosis to that of a basal lesion became apparent.

The basal parenchymal infiltration is best studied by means of serial radiographs and fluoroscopies. Fluoroscopy alone is not very satisfactory as oftentimes the fine nodose infiltration of the parenchyma is not detected. Radiography, besides eliminating the deficiency of fluoroscopy, keeps permanent records of the progress of the lesions.

From the cases studied in this report, the radiographic lesions of the basal parenchyma may be classified into fine nodose and fibrocaseous or pneumonic infiltrations. The fine nodose infiltration usually takes a slow course and has the usual manifestations of a chronic upper lobe tuberculosis. Probably this type of lesion is due to direct extension of infiltration from tuberculous tracheo-hilar lymph nodes, and this is the reason why the development is slow as compared with the fibrocaseous type. The fibrocaseous or so-called pneumonic infiltrations take a more rapid course and are generally accompanied by acute clynical symptoms, simulating pneumococcal pneumonias. Most likely, this is brought about by rupture of tracheo-hilar lymph nodes with lodgment of massive infection in the terminal bronchioles and alveoli and the development of a broncho-pneumonic process.

When hilar lymph nodes rupture into a blood vessel, miliary tuberculosis may take place. I have followed several of these cases. The last one that I saw was during the latter part of 1937. The patient was first confined in a general medical ward for observation. The chief complaint was low grade afternoon fever. Physical examination of the chest was apparently normal. Sputum was negative for acid-fast bacilli three times by direct method. Radiography of the chest showed marked peribronchial thickening of the hilus with numerous enlarged lymph nodes, very suggestive of a tracheo-hilar type of tuberculosis. After two weeks the fever of the patient became high and more or less continuous. Liver and spleen became palpable. The blood cultures for typhoid bacilli and Widal tests being negative, the case was suspected of clinical typhoid fever. But a second radiography of the chest showed miliary tuberculosis.

The possibility of infiltration of the basal parenchyma secondary to a pleurisy is a factor to be considered. I have had several of these cases under observation for the last two years. Previous fluoroscopic records of these cases showed no evidence of tracheo-hilar tuberculosis. Subsequent radiographes showed that after the absorption of the pleurisy, as manifested by the disappearance of the homogenous opacity, the basal parenchymatous mottlings appeared. So far it is only case (XI) that became positive. Although the other cases have active pulmonary tuberculosis symptoms, the confirmatory tests (acid-fast bacilli in the sputum) are still negative. Since eighty per cent or more of these pleurisies are tuberculous in nature, the finding of acid-fast bacilli in the sputum is only a question of time.

Pneumococcal lobar pneumonias, especially those affecting the lower lobes, may be considered also as a predisposing factor for the development of basal lesions of pulmonary tuberculosis. Resistance being weakened following pneumonia, the lungs are predisposed to pulmonary tuberculosis. It is also possible that pneumonia may activate some calcified or apparently arrested tuberculous foci in the basal parenchyma. So far there are only two positive basal cases that apparently developed in this way. In the rest of the cases, although the radiographic and clinical findings are those of basal infiltration, the sputum examinations are still negative.

From the cases that I have observed, I am of the opinion that basal or lower lobe lesions of pulmonary tuberculosis should not be considered as a type (basal type) by themselves. Most of the infiltrations of the basal parenchyma are either due to an extension from a tracheo-hilar type of tuberculosis, or probably arise as complications of pleurisies and pneumonias.

The term primary basal lesion of pulmonary tuberculosis, when applied to adults, should be used with discretion. Tuberculosis in adults is usually caused by a reinfection, while the primary lesion is generally seen during childhood. Adults may have the primary basal lesion, but this is extremely rare, although as as Boyd[12] says, primary lesion may occur in adults of primitive races who have not been exposed to previous infection.

Symptoms

The symptoms of lower lobe tuberculosis are extremely variable. Some cases may have the typical chronic upper lobe tuberculous symptoms, while others begin like acute pneumonic conditions. Still others, for a long time, may have no noticeable symptoms at all; the lesions being discovered accidentally only during routine physical and x-ray examinations of the chest. Pindell[13] expressed the opinion that basal lesion may exist for years without noticeable symptoms, but the great majority eventually exhibit manifest disease.

In the cases of basal lesions reported here, the symptoms vary according to the degree of infection, type of infiltration and resistance of the patient. While the lesion is small and limited to the tracheo-hilar lymph nodes, there is practically no noticeable symptom, except at times general malaise, anorexia and frequent "colds," which last for weeks. When these patients are put under four-hour temperature observation, there is generally a slight noon or evening rise of 0.5 degree C. If periodical roentgenograms of the chest are taken together with the temperature observations, the suspicion of the disease becomes more apparent.

With the infiltration of the basal parenchyma, the toxic manifestations, especially the fever, becomes so pronounced that it can be noticed by the patients without the aid of thermometer. In fine nodose infiltration of the parenchyma, the symptoms are more or less the same as in upper lobe lesions of the same type of infiltrations. But in fibrocaseous or pneumonic infiltrations, the fever is generally high at first and more or less continuous in character. There is generally a slight leukocytosis, which fact has also been verified by other workers. The high continuous fever plus the moderate leukocytosis of the basal fibrocaseous infiltration can be easily mistaken for early cases of pneumococcal pneumonia. When the high fever persists for several weeks, these cases of tuberculous basal lesions are generally mistaken for unresolved pneumonias. Should only sputum examination for acid-fast bacilli and periodic radiographies be done routinely on these questionable and unresolved pneumonias, more cases of basal lesions might be detected.

Diagnosis

Careful history taking, frequent sputum examinations, periodic roentgenograms or fluoroscopies and long follow-up observation of cases are essential in order to make a correct diagnosis of lower lobe tuberculosis.

In taking the history, one must not be satisfied with the absence of a family history of tuberculosis alone. Oftentimes long contact with undiagnosed cases in boarding houses or dormitories may be a predisposing factor. History of slight blood streaks in the expectoration and frequent colds which persist for weeks may help in diagnosing these cases.

Sputum which is positive for acid-fast bacilli is the only confirmatory factor in establishing an unquestionable diagnosis of basal lesion of pulmonary tuberculosis. But sputum is oftentimes negative in early basal cases of tuberculosis, especially when casual direct examinations are performed. Gordon and Charr[14] expressed the opinion that excavations in lower lobe cases are less "open" than in upper lobe cases, and obstruction in the bronchi may interfere with the free evacuation of the cavity contents. One must also remember that there must be at least 100,000 tubercle bacilli present per cubic centimeter to obtain a positive reading by ordinary methods.

Should repeated direct method of examination of sputum fail, one must resort to concentration method, animal inoculation and culture, if necessary. Pinner[16] found fifty-six cases positive by other methods of examinations (concentration, animal inoculation and culture).

Physical examination alone has little value in the diagnosis of lower lobe lesion, since most of the early cases have very little or no physical findings at all.

Periodic radiographies together with long observation of the clinical course are essential to a correct diagnosis of lower lobe

tuberculosis in the absence of confirmatory findings. Interpretation from a single radiograph alone is often-times misleading. To quote Hamilton and Fredd, "Roentgenologists' interpretation often suggest unresolved pneumonias, abscess, tumor, syphilis, bronchiectasis, or chronic pneumonitis rather than tuberculosis solely because the lesion is located in the lower lobe; it can readily be seen how easy it is to rule out tuberculosis if one is so inclined. As a result, chronic lower lobe lesions are perhaps too often attributed to other causes; i.e., cocci[17]. Yet Lathrop and Lyman found 67 per cent of lower lobe lesions were due to tuberculosis and only 33 per cent were due to other causes."

Differential Diagnosis

Differential diagnosis of lower lobe tuberculosis is being omitted in this paper for lack of space. It must be remembered that cases of lower lobe tuberculosis may take months or even years before the confirmatory test becomes positive. Even a few negative sputum examinations by concentration method, culture or animal inoculation can not entirely rule out lower lobe tuberculosis.

According to Wooley[18] 5,000 tubercle bacilli per cubic centimeter must be present in the sputum, if they are to be found by concentration methods. Weidman and Campbell reported one case out of their series with negative sputum, which at necropsy revealed pulmonary tuberculosis. Confirmatory laboratory examinations are good, but one must bear in mind that too much time may be lost while waiting for positive results and thus deprive the patients of the benefits of early treatment.

Prognosis

There is a diversity of opinion as to the prognosis of lower lobe tuberculosis, according to the findings of different workers. Pindell in 1932 expressed his opinion on basal lesion as treacherous, while Colton considered this condition to be grave. Dumhan and Norton found from their experience (26 cases) that basal lesions are virulent. Hamilton and Fredd, basing their experience on ten cases could not agree with these statements.

From this report, I would hesitate to give any definite opinion in regard to prognosis because the cases observed were very few. Besides, there are certain factors that must be taken into consideration which may influence the prognosis. First, the dose or degree of infection. Virulence of the bacilli may also be added, but according to Boyd this does not appear to play an important part. Second, the type of infiltration of the basal parenchyma. In fine nodose infiltration, the tendency of the development is generally chronic, whereas in fibrocaseous or pneumonic infiltration, it is generally acute. As the majority of the basal lesions are of the fibrocaseous type, this fact is probably responsible for the grave prognosis given by other workers. Third, resistance or immunity of the patient. When the resistance of the patient is good, the tendency to repair is generally greater than the destruction process, especially if the affected lung can be put at rest (Boyd). Fourth, early diagnosis is essential so that the proper therapy can be given. At times, in spite of early diagnosis and treatment, the base of the contralateral lung becomes involved, as in Case IX.

Due to these different factors, the prognosis of basal cases in general is reserved. Only after a case has been sufficiently observed can one give more or less of a definite opinion as to the prognosis of that case.

Treatment

With reference to the therapy of basal lesion, there is not much that can be said. The treatment is the same as in upper lobe tuberculosis. Exudative basal lesions of the fibrocaseous type of infiltration should be treated by early collapse therapy so as to prevent adhesions which may develop later on.

Cases of suspicious basal lesions with occasional negative sputum examinations should be treated as tuberculosis, because by so doing, the patients are given the benefits of early treatment.

Report of Cases

Case I

S. J., female, Filipino, college student, seventeen years old had been complaining of constant chest pain and afternoon fever since June 27, 1934. There was no history of pulmonary tuberculosis in the family. Physical and sputum examinations were negative. Fluoroscopy showed peribronchial thickening

of the left hilus with enlarged lymph nodes. On October 29, 1934, the patient was admitted at the University Infirmary with the complaints of cough of two weeks' duration and loss of weight. Physical and laboratory examinations were again all negative, but there was a regular rise of afternoon temperature. Radiography was done on October 30, 1934. Peribronchial thickening of left hilus with numerous enlarged lymph nodes were seen. Between the sixth and seventh ribs posteriorly on the left side was a small area of about one centimeter in diameter of nodose parenchymatous infiltration with fading out margins. The rest of the parenchyma was apparently clear.

The patient was readmitted at the U. P. Infirmary on July 17, 1935 with the same complaints of fever, cough and loss of weight. Physical and sputum examinations were again negative. On July 26, 1935, nine days later, there was dullness evident over the left base with slightly distant breathing, but no rales. Radiography was again done on August 5, 1935. Compared with the radiograph of October 30, 1934, the nodose infiltration between the sixth and seventh ribs posteriorly was intercepted with linear fibrosis. From the eighth rib posteriorly downwards, there was a generalized homogeneous opacity with patches of dense areas, the tendency of which was to invade the entire basal parenchyma. The infiltration was very suspicious of tuberculosis, but due to the rarity of basal lesion and negative sputum examinations, further observations were made.

On August 10, 1935, the patient was very sick. Fever was more or less continuous, ranging from 38° C to 40° C. Leukocyte counts varied from 11,900 to 12,950 with polys from 58 per cent to 72 per cent. The sputum tested by direct method for acid-fast bacilli was three plus. Radiography was done a third time on August 18, 1935, showing a fibrocaseous infiltration of the lower half of the left lung.

The patient was transferred to Santol Tuberculosis Sanatorium (now Quezon Institute) on August 18, 1935 for confinement and treatment. She was under collapse therapy for more than a year and her sputum became negative for the first time on October 13, 1936. She was discharged on November 21, 1936, afebrile and with a great gain in weight. During the early part of 1937, the patient developed pleural effusion while she was continuing her pneumothorax treatment in Vigan, Ilocus Sur, P. I.

Case II

G. M., nineteen years old, Filipino, college student, was first seen on August 1, 1935 complaining of loss of appetite, afternoon fever, chest and back pains and bloody streaks in the sputum. Previous illnesses were: Right basal lobar pneumonia in May, 1935. Cervical lymphadenitis (tuberculous) in 1930. The present illness began on August 1, 1935, with fever, cough and bloody expectoration. Physical examination showed dullness over right base with broncho-vesicular breathing and fine moist rales; and the laboratory examination, Leukocytes—13,800; N.—72 per cent; S. L.—15 per cent; L.L.—10 per cent; M.—3 per cent. Sputum tests for acid-fast bacilli were negative five times and became positive on August 7, 1935. Radiography was done on August 7, 1935 and showed a beginning fibrocaseous infiltration of the right base. Follow-up fluoroscopic examinations showed that there was a tendency for the infiltration to spread to the entire right base, so collapse therapy was instituted with apparently good result.

Comment: The fluoroscopic record of this patient, before he developed the right basal pneumonia, showed both lungs were apparently clear. This fact, however, does not rule out entirely the presence of some minute calcified or apparently arrested tuberculous foci in the right basal parenchyma which was later activated by the pneumonia. It is also possible that due to a weakened resistance following the pneumonia, the lungs, especially the right base, became easily vulnerable to tubercle bacilli, the most probable focus of infection being the tuberculous cervical lymph adenitis.

Case III

S. B., male, single, nineteen years old, college student, was first seen on June 2, 1937 with the complaints of chest and back pains. There was no family history of pulmonary tuberculosis. Auscultation showed a few moist rales at the right interscapular region. There was low grade afternoon fever with a pulse of above 90 per minute. Sputum was nega-

tive. Radiography, June 2, 1937, showed pulmonary tuberculosis, right tracheo-hilar type, with a tendency of the infiltration to extend to the base. The patient had hemoptysis on September 9, and September 15, 1937. Radiography on September 9, 1937, as compared with that of June 2, 1937, showed that the basal infiltration was more extensive and that practically the entire base was involved. The sputum then became positive. Collapse therapy was instituted and after six months' treatment the sputum became negative. At present, this student is free from active symptoms of pulmonary tuberculosis and he has gained twenty-three pounds in weight. He is now able to continue his studies in college, although he is still under pneumothorax treatment.

Case IV

A. S., male, single, twenty-four years of age, college student, was first seen during the first week of October, 1937, with the chief complaints of afternoon fever and cough, which had been present intermittently for the past month. There was a history of lobar pneumonia, right base, on August 19, 1937. His mother had died of pulmonary tuberculosis in 1934. Physical examination showed dullness, broncho-vesicular breathing and fine moist rales over the right base. Radiography, October 22, 1937, showed fibrocaseous infiltration of the right base. Sputum was negative several times by direct method, but positive by concentration method. Patient refused collapse therapy.

Case V

J. Q., male, single, twenty-one years old, college student, was admitted at the U. P. Infirmary on October 29, 1937 with the chief complaints of fever, cough, chest and back pains. Physical examination showed dullness, distant breathing and moist rales over the left base. The temperature was generally normal in the morning, with a tendency to rise in the afternoon as high as 39.5° C. The laboratory findings were: Leukocytes—12,200; N.—71 per cent; S. L.—17 per cent; L. L.—10 per cent and L. M.—2 per cent. Daily sputum examination was negative for one week. A couple of drops of saturated solution of KI was given for two or three days. The sputum was again examined and it became positive. Radiography, November 2, 1937, showed fibrocaseous infiltration of the left base.

Case VI

E. C., forty years old, female, married, Filipino, instructor in voice culture, was admitted to the Philippine General Hospital, Manila, on July 3, 1937 with the chief complaints of fever, cough and difficulty in respiration. Physical examination revealed slight dullness, distant breathing and fine moist rales over the right base. The temperature was 39.5° C; pulse, 116. Radiography was done on July 8, 1937, showing peribronchial thickening of right hilus with numerous enlarged lymph nodes, and fine nodose, parenchymatous infiltration of the right base. The left lung was apparently clear. Sputum by direct examination was negative six times, but positive by concentration method. Right artificial pneumothorax was immediately instituted. At present, the patient is able to continue her work after two years of treatment.

Case VII

R. C., fifteen years old, male, single, Filipino student, complained of back pains, fatigue on slight exertion, afternoon fever and cough. His mother and sister are suffering from active pulmonary tuberculosis. Physical examination showed dullness and broncho-vesicular breathing over the right base but no rales. Temperature was 37.4° C at 3:00 P. M.; pulse, 100. Sputum was negative seven times by direct method and positive by concentration method on September 28, 1935. The patient has been under observation for the last three years. Radiography was done on September 15, 1935. Tracheo-hilar type of tuberculosis with a tendency for the infiltration to invade the right basal parenchyma was present. Subsequent follow-up fluoroscopic examinations showed involvement of the entire right base. Patient refused pneumothorax treatment.

Case VIII

D. P., male, single, eighteen years old, Filipino, was first seen on July 7, 1935 with the chief complaints of afternoon fever, cough, chest and back pains. Physical examination showed slight dullness, broncho-vesicular breathing and fine moist rales over the right base. Sputum was negative several times by

direct examination, but positive by concentration method. Radiography, August 14, 1935 showed marked peribronchial thickening of right hilus with numerous enlarged lymph nodes, fibrocaseous infiltration of the right base, and slight peribronchial thickening of left hilus with beginning infiltration of left base.

Case IX

V. P., forty years old, carpenter, male, Filipino, was admitted at the Bilibid Prison Hospital, Manila, on January 28, 1935 with the chief complaints of fever, cough and bloody expectoration. His parents had died of pulmonary tuberculosis while the patient was still young. Physical examination revealed a well developed and well nourished individual. Chest examination showed dullness, broncho-vesicular breathing and fine moist rales over the right base. Sputum, by direct method was positive on August 26, 1935. Radiography was done on July 5, 1935 and marked peribronchial thickening of right hilus with numerous enlarged lymph-nodes was evident, as was fibrocaseous infiltration at the base of the right hilus with a tendency to invade the entire basal parenchyma. Right artificial pneumothorax was immediately instituted. On March 26, 1936, the patient refused further pneumothorax treatment. Subsequent examination revealed infiltration of the contralateral base, as verified by fluoroscopy.

Case X

M. C., male, Filipino, sixty-five years old, married, farmer by occupation, was complaining of chest pain, cough and low grade afternoon fever. Physical examination showed dullness, broncho-vesicular breathing over right base. Temperature was 37.7° C at 2:00 P. M.; pulse was 90. Sputum was negative six times by direct method, but positive on the seventh examination. Radiography, September 19, 1935, showed tracheo-hilar type of tuberculosis with a tendency of the infiltration to extend to the right basal parenchyma. Patient went home to the province so that follow-up observation could not be done.

Case XI

E. G., male, single, nineteen years old, Filipino, college student was admitted at the U. P. Infirmary on August 4, 1934. Chief complaints were pain in the right side of the chest, cough, difficulty of breathing and fever. The family history revealed that the Grandfather had died of pulmonary tuberculosis in 1932. Two days before being admitted to the Infirmary the patient played basketball and then took a cold shower afterwards. In the evening of the same day, he developed fever, chills, pain in the right side of the chest, cough and difficulty of breathing. Physical examination showed well developed and well nourished male individual with a suffering expression. In his chest there was a dullness and distant breathing, but no rales over the lower half of the right lung. Temperature was from 38° C to 39.5° C at six o'clock P. M., with a pulse of over 90 per minute. The laboratory examination revealed: Pleural effusion—Total cell count: 1,270. Differential count: N—3 per cent; S. L.—79 per cent; L. L.—10 per cent; Mesothelial cells—8 per cent. Sputum, August 4, 1934, was negative for acid-fast bacilli by direct examination method. Fluoroscopy on June 10, 1934, during the entrance medical examination, showed both lungs apparently clear. Radiography was done on August 4, 1939. There was a homogeneous opacity of the right lung with no evidence of infiltration of the parenchyma, giving the impression of pleurisy, sero-fibrinous of the right base. Patient was discharged on August 16, 1934, afebrile. On October 10, 1936, patient complained again of afternoon fever, chest pain and cough. Physical examination of the chest showed slight dullness and distant breathing over the right base. Sputum was negative for acid-fast bacilli. Radiography was again done on October 10, 1936. Compared with the radiography of August 4, 1934, there was a clearing of the homogeneous opacity of the right base of the lung from the medial portion towards the periphery. In this cleared area, there were a few suspicious nodose infiltrations of the basal parenchyma. The impression was beginning infiltration of the right base with old pleurisy. Sputum examination by direct method was again negative. Due to the persistance of the clinical symptoms, another radiograph was taken on January 21, 1937. The diagnosis was tuberculous infiltration, right base, and with old pleurisy. Sputum was positive for acid-fast bacilli.

Summary

The incidence of basal lesion of pulmonary tuberculosis among Filipinos is one for every 1,300 tuberculous cases. In spite of the prevalence of pulmonary tuberculosis in the Philippines, the incidence of basal lesion is low, as compared with that of other countries.

Basal lesion of pulmonary tuberculosis should not be considered as a definite type (basal type) by itself. The majority of basal parenchymal lesions are an extension of infiltration from a tracheo-hilar type of tuberculosis. Lobar pneumonias, especially those affecting the lower lobes of the lungs, and pleurisies are predisposing factors for the production of basal lesions.

Symptomatology of basal lesion of pulmonary tuberculosis depends upon the degree of infection, type of infiltration and resistance or immunity of the patient.

Diagnosis of basal lesion is a tedious one as it oftentimes requires long follow-up of cases before the sputum becomes positive. The criterion for positive diagnosis is the finding of acid-fast bacilli in the sputum, as usual.

Prognosis of basal lesions in general is reserved.

The treatment of lower lobe tuberculosis is the same as in the upper lobe lesions. Suspicious basal lesions with occasional negative sputum examinations should be treated as tuberculosis so as to give the patients the benefits of early treatment.

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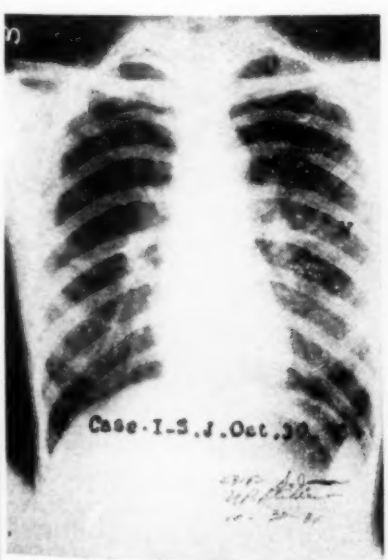
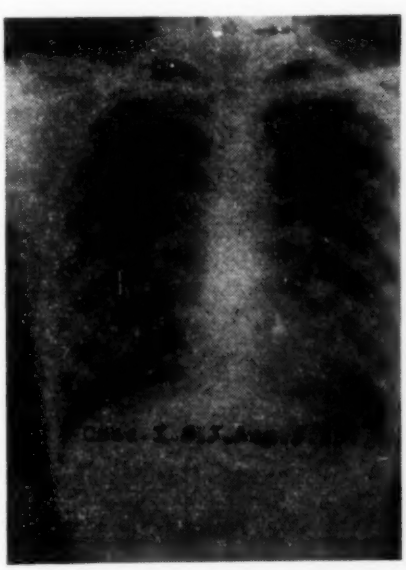
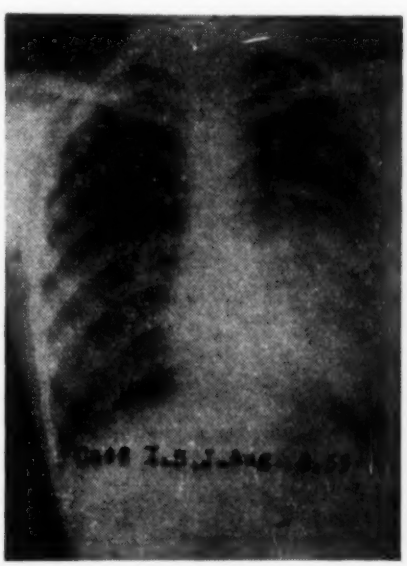


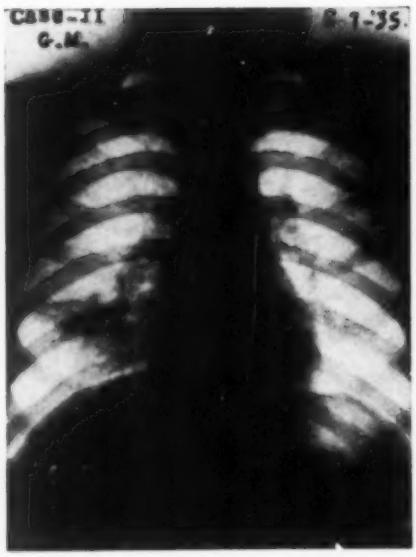
Case I—S. J., Oct. 10, 1934. First infiltration of the parenchyma took place at X.



Case I—S. J., Aug. 5, 1935. More extensive fibrocaseous infiltration of the left basal parenchyma.



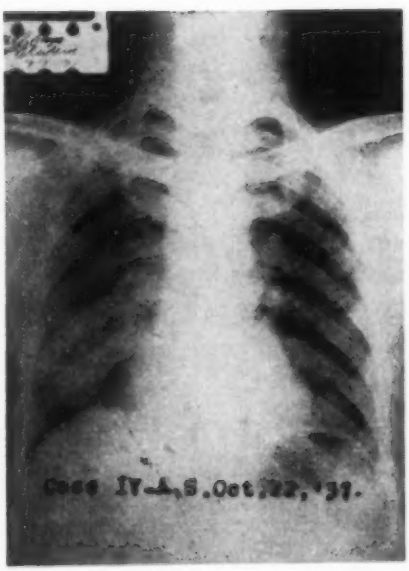
Case I—S. J., Aug. 18, 1935. Fibrocaseous infiltration of the left lower half of the lung.
Sputum—Positive (3 plus-direct method) for acid-fast bacilli.



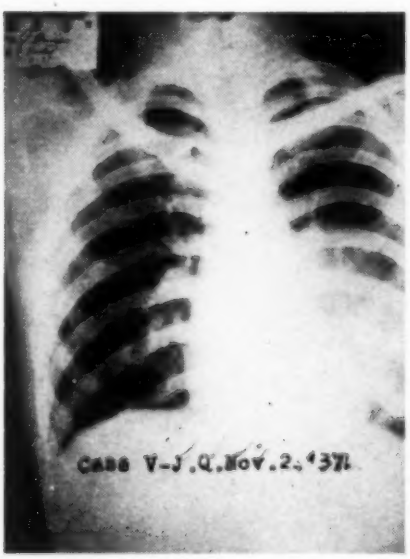
Case II—G. M., Aug. 7, 1935. Beginning fibrocaseous infiltration, right base. Subsequent fluoroscopic examination showed infiltration more extensive. *Sputum*—Positive for T. B. bacilli.

Case III—S. B., June 2, 1937. Pulmonary tuberculosis, tracheohilar type, right.

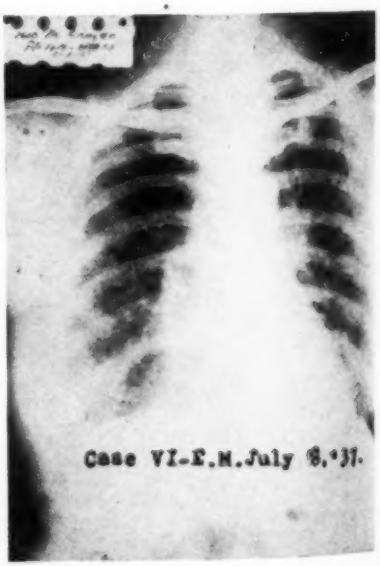
Case III—S. B., Sept. 9, 1937. Infiltration of right base was more extensive. *Sputum*—Positive.



Case IV—A. S., Oct. 22, 1937. Fibrocaseous infiltration right base. *Sputum*—positive (Concentration method).

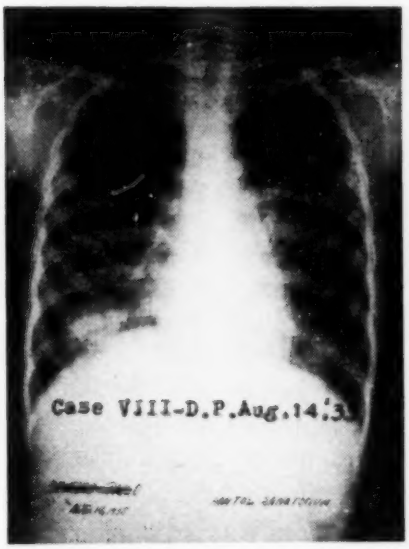


Case V—J. Q., Nov. 2, 1937. Fibrocaseous infiltration left base. *Sputum*—Positive.

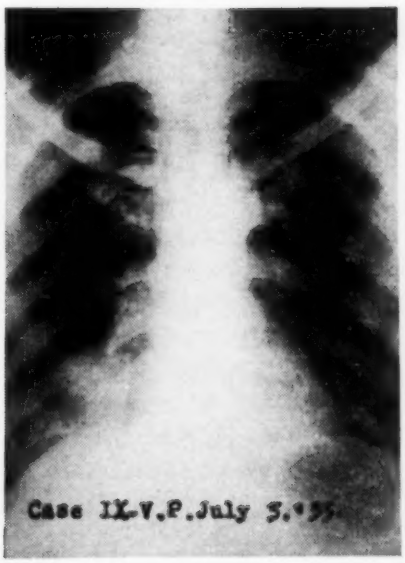


Case VI—E. M., July 8, 1937. The fine nodose infiltration of the right basal parenchyma is hardly visible in the print. *Sputum*—Positive (Concentration).

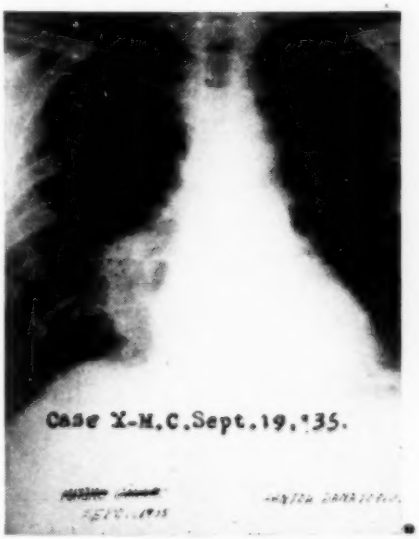
Case VII—R. C., Sept. 15, 1935. Pulmonary tuberculosis, tracheohilar type, right. Subsequent fluoroscopic examinations showed involvement of the entire right base. *Sputum* — Positive (concentration) 9/28/35.



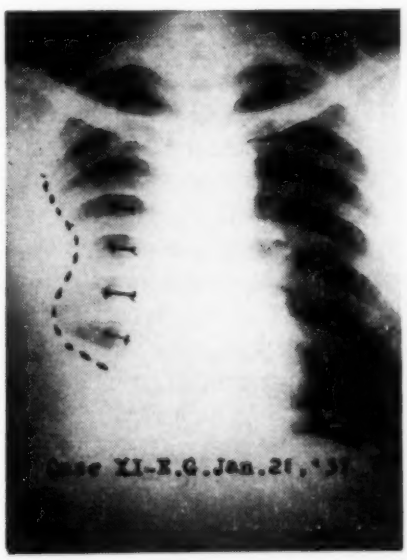
Case VIII—D. P., Aug. 14, 1935. Marked peribronchial thickening of right hilus with numerous enlarged lymph nodes. Fibrocaseous infiltration, right base. Beginning infiltration, left base. *Sputum*—Positive.



Case IX—V. P., July 5, 1935. Enlarged right hilus with fibrocaseous infiltration, right base. Subsequent fluoroscopic examination showed infiltration of contralateral base. *Sputum*—Positive (8/26/35).



Case X—M. C., Sept. 19, 1935. Pulmonary tuberculosis, tracheohilar type, right with tendency of infiltration to invade basal parenchyma. *Sputum*—Positive.



Case XI—E. G., Jan. 21, 1937. Dotted line indicates thickened pleura. Arrow indicates tuberculous nodose infiltration of right basal parenchyma. *Sputum* — Positive.

Remarks on the Patient-Physician Relationship in Tuberculosis of the Lungs

ELMER HIGHBERGER, JR., M.D.
Greensburg, Pennsylvania

In no other disease is the patient-physician relationship of such importance as it is in tuberculosis of the lungs. It is the confidence which the physician inspires in his patient that is the prime consideration. The patient fears the diagnosis of tuberculosis with its connotations of possible death and chronic illness. The sudden disruption of his accustomed mode of life and the stigma attached to the disease also alarm him. In spite of these considerations, it is the duty of the physician to pursue what will eventually prove the most practical plan and talk frankly with the patient.

Attempts on the part of the physician to alleviate the seriousness of the situation by minimizing the extent of the disease and by delay in establishing the diagnosis by roentgenographic examination will result in postponement of treatment. On the other hand, the physician should stress the efficacy of immediate treatment and encourage the patient to anticipate an arrestment of disease by seeking immediate treatment. Such an attitude on the part of the physician, which will serve to attain the better end results, will later place the physician in the most favorable light when the patient learns to appreciate the nature of his illness and the chronicity of its arrestment, whether that goal is attained at home, or at the sanatorium to which the physician has referred the patient.

Because of the chronicity of the illness, nearly every patient with tuberculosis develops certain psychoneurotic traits that may result from long periods of forced inactivity in bed, from economic stress and familial responsibilities, from almost hopeless abandonment of his ambitions and his work, or from anxiety attendant on his eventual recovery or death. The physician should always leave his patient with a word of encouragement, no matter how bad the situation seems. It is in the instance of the chronic cure that one becomes impressed with the principles of Dr. Adolph Meyer's teachings in psychobiology. The patient must be encouraged to hope for a return to a useful life after his illness is terminated, for such a therapeutic measure makes it easier for him to relax.

The advantages of occupational therapy should be used to fill the gap in the case of patients who will eventually be able to return to their previous occupations or to direct the abilities of those who can not expect to return to their previous occupations into channels and occupations that will require less physical energy. In both instances the advice of an occupational counselor may become necessary. Since the latter individual is to be found available only in some sanatoria and the larger metropolitan areas, it often becomes the duty of the ethical physician to take over this function. Although, in many instances, objective forms of therapy, such as specific or symptomatic medication, physiotherapy, etc., are of benefit in supplementing the psychotherapy, the physician should not lose sight of the fact that in the majority of cases it is his own encouragement and sympathy that is most efficacious. The plan of treatment should consider not only the immediate but the future welfare of the patient in so far as the latter remains unaffected by unpredictable eventualities.

The physician, no matter how disinterested his attitude may be, is frequently influenced by an overweening desire on the part of the patient for an increase in his exercise schedule and permits the patient more exercise or work than his study of the particular case would warrant. The ambitious and intelligent patient who is determined to recover from tuberculosis should take no advantage of his physician's advice, but should follow it implicitly.

A sanatorium patient, particularly the patient who has been treated in a reliable institution that has well trained nurses and physicians on its staff, is a good judge of the

ability of the phthisiologist. Fundamentally, a sanatorium should be considered a training school for patients where they will learn not only how to get well, but also how to stay well once their disease has been arrested. The same result can be achieved in practice, providing that the physician has a genuine interest in his patients and gives them more than the usual amount of his time.

It is the pneumothorax case that is especially critical. Pneumothorax cases do not like to change physicians because they fear possible pain at the hands of an untried operator. Because of the simplicity of the operation, there is actually little cause for the production of pain.

The physician who inspires confidence in his patients is the one who has the least difficulty in persuading them to submit to operative measures such as pneumothorax, phrenic operations, thoracoplasties, etc. Frequently, the patient's confidence is restored by a good x-ray report, a reduction in the rate of sedimentation of the red blood cells and the knowledge of other signs of improvement. The physician who promises the exact date of a patient's return to an ambulant life and fails to verify his promise leads the patient to expect the worst. Similarly, patients are led to expect periodic clinical and laboratory examinations, or progress examinations, and are alarmed if these examinations are not done, if the report is delayed for an unusual period, or if the physician hedges when asked for the results of the test. With few exceptions, the physician will experience less difficulty if he makes a practice of telling the patient the truth when the patient asks for it.

A patient is fortunate when he has confidence in a reliable physician and accepts his advice without equivocation. The discontented and refractory patient who considers the freedom from responsibility, which the treatment of tuberculosis aims to promote, an opportunity for unrestrained Wanderlust and moves restlessly from institution to institution, or from climate to climate, has himself to blame for the progress of his disease. While under the tutelage of a sympathetic physician, the intelligent patient soon comes to realize that his recovery or retrogression is largely his own responsibility. Implicit acceptance of the physician's advice becomes the surest prescription for a return to a useful and happy life.

Organization News

MEETING OF THE ARRANGEMENTS COMMITTEE

A meeting of the members of the Committee in charge of the Arrangements for the Sixth Annual Meeting of the American College of Chest Physicians was held at the Biltmore Hotel, New York, on May 28th. Dr. Edgar Mayer, Chairman of the General Arrangements Committee, presided.

INDIANA GOVERNOR REPORTS

Dr. James H. Stygall, Governor of the College for the state of Indiana, reports that the following county committees have been set up for the Advancement of Tuberculosis Organization in Medicine, since the last report on this subject several months ago. The committee members are listed.

F. E. Keeling, M.D., Portland.
John Lansford, M.D., Redkey.
B. M. Taylor, M.D., Portland.
J. B. Eviston, M.D., Huntington.
Harold Brubaker, M.D., Huntington.
R. B. Johnston, M.D., Huntington.
L. H. Osterman, M.D., Seymour.
W. D. Day, M.D., Seymour.
J. C. Elliott, M.D., Guilford.
W. J. Fagaly, M.D., Lawrenceburg.
J. K. Jackson, M.D., Aurora.
E. P. Buckley, M.D., Jeffersonville.
George Regan, M.D., Sellersburg.
H. L. Shanklin, M.D., Henryville.
R. L. Kinneman, M.D., Greenfield.
H. K. Navin, M.D., Fortville.
T. A. Pierson, M.D., New Palestine.
J. W. Strayer, M.D., Lafayette.
G. A. Thomas, M.D., Lafayette.
C. V. Davisson, M.D., Lafayette.

GOVERNOR FOR RHODE ISLAND REPORTS

Dr. Ubaldo E. Zambarano, Governor for the College of the State of Rhode Island, reports on the work of the Rhode Island Tuberculosis Association as follows:

"At the annual meeting of the Rhode Island Tuberculosis Association held April 11, 1940, the Cranston District Nursing Association donated the allotment of $300.00 of their Christmas Seal funds for a scholarship to the Trudeau School. It was awarded to Dr. John F. Chace, a member of the State Sanatorium Staff.

"The Rhode Island Tuberculosis Association also donated $150.00 toward the purchase of books for the Medical Library, recently established at the State Sanatorium.

"The Barnes Trophy awarded each year by the Rhode Island Tuberculosis Association to the community doing the best tuberculosis work during the year, was awarded to the city of Warwick. The program was carried out under the direction of the Health Officer, Dr. Raymond Luft, and Miss St. John, Head of the Warwick Nursing Staff."

MEETING OF TUBERCULOSIS COMMITTEE OF THE GEORGIA MEDICAL ASSOCIATION

At the Annual Meeting of the Georgia Medical Association, held at Savannah on April 23-26, 1940, Dr. Champ H. Holmes, Chairman of the Committee for the Advancement of Scientific Programs in Organized Medicine, presided at a meeting of the State Tuberculosis Committee. Dr. Holmes also reported to the House of Delegates on the work of the Committee, whose State Chairman he is, and discussed a paper on "Bronchography in the Diagnosis of Chest Diseases" by Dr. Sherwood Lynn.

GOVERNOR ELECTED TO OFFICE

Dr. Paul A. Turner, Governor for the College of the State of Kentucky, was elected President of the Kentucky State Hospital Association at a meeting held in Louisville on April 25th and 26th. Many prominent hospital executives and directors attended the meeting. A few months previous, Dr. Turner was elected President of the Southern Tuberculosis Conference.

GOVERNOR ELECTED TO OFFICE

Dr. Jesse D. Riley, Governor of the College for the State of Arkansas, was elected to the Board of Directors of the Arkansas Tuberculosis Association.

APPOINTMENT

Dr. Thomas F. O'Leary of Philadelphia, Pennsylvania, a Fellow of the College, has been appointed to the position of Clinical Chief of the Tuberculosis Department of the Episcopal Hospital in Philadelphia. The Clinic operates under the supervision of the Department of Health.

ADDRESSES BY FELLOWS

Dr. William H. Ordway of the Metropolitan Life Insurance Sanatorium, Mt. McGregor, New York, a Fellow of the College, has been conducting a series of meetings at the Sanatorium for the Saratoga County Medical Society. On April tenth he spoke on "Early Diagnosis of Tuberculosis," assisted by his staff. X-ray plates, showing follow-up work, brought home Dr. Ordway's points.

Dr. Donald J. Tillou, Elmira, New York, a Fellow of the College, addressed a joint meeting of the Yates County Medical Society and the staff of the Soldiers and Sailors Memorial Hospital on "Conditions of the Chest." The address was given on April 8, 1940, at the Wagner Hotel in Penn Yan.

Dr. E. E. Glenn, Springfield, Missouri, a Fellow of the College, reported to the House of Delegates of the Missouri State Medical Association, at their 83rd Annual Meeting, April 29 - May 1, 1940, on the work of the Tuberculosis Committee of the State Medical Society.

At the regular meeting of the Lynchburg Academy of Medicine held on April 1, 1940, a symposium on Thoracic Disease was pre-

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sented by Doctors F. B. Stafford of Blue Ridge Sanatorium, Virginia, and E. C. Drash, of the University of Virginia, both Fellows of the College.

Doctors Jesse Douglas and Herbert L. Mantz, Fellows of the College, spoke at the Sixteenth Annual Meeting of the Missouri Public Health Association, held at Jefferson City, May 23-25, 1940. Dr. Douglas, in conjunction with Dr. William M. Kinney, spoke on "Silico-Tuberculosis in Missouri," and Dr. Mantz gave an "Evaluation of the Tuberculin Test."

Dr. J. M. Odell, The Dalles, Oregon, a Fellow of the College, spoke before the Umatilla County Medical Society on April 9, 1940 at Pendleton, Oregon. Dr. Odell illustrated his talk on "Differential Diagnosis of Pulmonary Tuberculosis" with a number of illustrative x-ray films.

The Pennsylvania Tuberculosis Society held its forty-eighth annual meeting in Williamsport on May 9-10, 1940. At the meeting, Dr. John S. Packard of Allenwood, Pennsylvania, a Fellow of the College, spoke on the "Diagnosis and Treatment of Tuberculous Tracheobronchitis."

Dr. John H. Peck, Oakdale, Iowa, President-Elect of the College, delivered an address on "Diagnosis, Treatment and After-Care" before a meeting of nurses and hospital administrators, held in Keokuk, Iowa, on March 29, 1940.

Dr. J. A. Myers, Minneapolis, Minnesota, Regent of the College for District 9, spoke before the Woodbury County Tuberculosis Association at Sioux City on March 13th; on March 19th he addressed the joint meeting of the Chicago Pediatric Society and the Chicago Tuberculosis Society on "The Relationship of First Infection to Clinical Tuberculosis"; on March 28th he presented four lectures at the Iowa Tuberculosis Association's Silver Jubilee Celebration held in Mason City; and on April 16th he addressed the joint meeting of the Indiana Tuberculosis Association and the Indianapolis Medical Society on "Scientific Procedures in the Diagnosis and Control of Tuberculosis."

Dr. Joseph C. Placak, Cleveland, Ohio, Governor of the College for the State of Ohio, spoke on "Finding Tuberculosis in the Early Stages" at a meeting of the Columbiana County Medical Society on March 12, 1940.

OPENS NEW OFFICE

Dr. Karl Schaffle, Governor of the College for the State of North Carolina, announces the opening of Offices and Laboratories at 603 Flat Iron Building, Asheville, North Carolina, together with Max Riesenberg, a Qualified Medical Technologist.

POSTGRADUATE COURSE

The University of California Medical School will offer a refresher course for graduate physicians from June third to June sixth. The Course will cover "Various Aspects of Chronic Diseases" and will include discussions of heart disease and tuberculosis. Further information can be obtained from the Dean's Office.

INVITATION

The Twenty-fifth Annual Meeting of the American Association of Industrial Physicians and Surgeons, together with the Fifth Annual Meeting of the American Industrial Hygiene Association, will be held at the Hotel Pennsylvania, New York City, June 4-7, 1940. This will be a four day meeting intensively devoted to the problems of industrial health in all of their various medical, technical, and hygienic phases, with particular stress on the prevention and control of occupational hazards.

The medical profession is not only invited, but urged to attend these gatherings as they will be of unusual interest and value to all practitioners interested in industrial injuries and illnesses.

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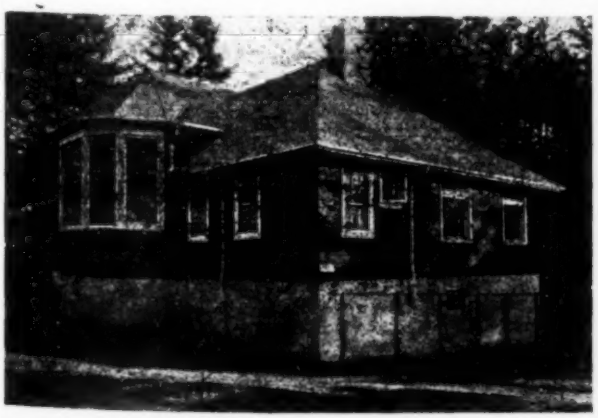

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FELLOWS ELECTED TO AMERICAN COLLEGE OF PHYSICIANS

The following Fellows of the American College of Chest Physicians have been elected to Fellowship in the American College of Physicians during the year, 1939-1940:

Anthony V. Cadden, M.D.,
Hopemont, Virginia.

Jacob Antrim Crellin, M.D.,
Philadelphia, Pennsylvania.

Elmer Edward Glenn, M.D.,
Springfield, Missouri.

Lucius Emmett Madden, M.D.,
Columbia, South Carolina.

Myron David Miller, M.D.,
Columbus, Ohio.

Elliott Plummer Smart, M.D.,
Murphys, California.

David Ulmar, M.D.,
New York, New York.

Dr. George Elmer Martin of Pittsburgh, Pennsylvania, a Fellow of the College, was elected to Associateship in the American College of Physicians on March 31, 1940; and Dr. Walter E. Vest, Huntington, West Virginia, Governor of the College for the State of West Virginia, has become a Life Member of the American College of Physicians.

CONFERENCE OF NEGRO TUBERCULOSIS WORKERS

The Second Annual Conference of Negro Tuberculosis Workers was held at the Howard University School of Medicine, Washington, D. C., on May 27-28, 1940, under the auspices of the Tuberculosis Association of the District of Columbia and the National Tuberculosis Association.

TUBERCULOSIS HOSPITAL CONSTRUCTION NEWS

The county officials of East St. Louis, Illinois, are preparing to start construction on a new 105-bed tuberculosis sanatorium as soon as a $334,000.00 bond issue is printed and delivered.

At a meeting sponsored by the Jefferson-Hamilton County Medical Society, of Mt. Vernon, Illinois, a proposal to construct a tuberculosis sanatorium in southern Illinois, for the purpose of serving twenty-seven counties, was discussed.

At Pine Rest, New Jersey, the Atlantic County Board of Freeholders rejected, in February, all previous bids for the erection of a new 100-bed tuberculosis hospital and reopened the bidding.

TUBERCULOSIS COMMITTEE REPORTS TO HOUSE OF DELEGATES

The Tuberculosis Committee of the Texas State Medical Society, represented by Dr. Henry F. Carman, Dallas, Regent for the College of Texas; Dr. Jesse Brown White, Amarillo, a Fellow of the College; Dr. Sim Hulsey, Fort Worth, a Fellow of the College; and Dr. Howard E. Smith, presented a Supplementary Report on the findings of the Committee to the House of Delegates of the State Society. This was done in Dallas on May 15, 1940. Covered in the report, were recommendations for the distribution of tuberculin; the furtherance and revision of postgraduate study courses on tuberculosis and training in pneumothorax administration; and the improvement of sanatorium facilities, an additional 2500 beds for Texas being recommended, as well as the establishment of a sanatorium for Latin-Americans in the southwestern part of the state. A complete report will be published later.

In addition to the above Fellows, there were present at the meeting, Dr. Floyd Napoleon Moore, of Austin; Dr. J. B. McKnight, of Sanatorium; both Fellows of the College; Dr. Orville E. Egbert, Governor for the College of the State of Texas; and Dr. Robert B. Homan, Jr., Secretary-Treasurer of the College.